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APPLYING CONTESTABILITY THEORY TO RURAL FINANCIAL MARKETS: WHAT DO WE GAIN?

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Abstract

The propositions of the theory of market contestability is applied to analyze if certain identifiable features of the rural credit markets lend support to the contestable market hypotheses.

The data of the type typically available from field surveys is used to argue that contestability of the rural informal credit market in the Philippines, given the methodological and data limitations, is empirically difficult to prove. The paper further argues that the effort to find evidence of market contestability is not necessary to argue against government regulation of informal financial markets.

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I. Introduction

The high interest rates charged in rural informal credit markets in less developed economies has led to the widespread perception that these markets are monopolistic and that informal lenders are exploitative. This perception has in turn influenced policy making. The government-sponsored subsidized credit programs of the seventies were due in part to attempts to eliminate informal lenders. Critics of these programs and the government regulations that result in repressed financial systems have challenged the exploitation thesis about informal lenders. They argue that the high interest rates on informal loans are due to factors other than monopoly profits, and that the participation of many lenders in the market is evidence of competition (Adams, Larson). Using the existence of multiple lenders as evidence of the lack of barriers to entry, they argue that the informal credit market is contestable.

The claim of contestability in the informal credit market is motivated in part by a concern to avoid unwarranted government intervention that has been demonstrated to be deleterious to the efficient functioning of rural financial markets. It is also a response to proponents of the *exploitation* thesis who argue that informal lenders charge monopolistic

rates and earn excessive profits [1]. If informal markets are contestable, regulation is redundant because the mere existence of the threat of entry by potential competitors is sufficient to discourage incumbents in the market from charging interest rates in excess of competitive levels.

Whether or not rural informal credit markets are contestable is debatable. Based on empirical tests of the perfectly contestable markets (PCM) hypothesis in concentrated industries, the weight of opinion in the literature seems to indicate that the theory has rather limited scope [2]. However, the issue is not settled insofar as informal credit markets are concerned, and our objective here is to analyze if certain identifiable features of rural informal credit markets lend support to the contestable market hypothesis. The empirical analysis of market contestability requires a broad and intensive survey of a large number of homogenous lenders and borrowers. However, the data available through a standard survey of rural households, and the methodological problems of measuring certain variables, like effective interest rate and costs of lending and borrowing in an interlinked contract, restrict the robustness of the analysis generally conducted. In this paper we use data of the type typically available from field surveys to argue that contestability of the rural informal credit market in the Philippines is empirically difficult to prove.

The following section briefly summarizes key propositions of the market contestability thesis. In the third section we examine the contestable market thesis in terms of its

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[1] More recent work has shown that the exploitation thesis does not depend on the existence of monopolistic interest rates (Basu).

[2] See Schwartz and Baumol and Willig.

relevance to informal credit markets, and cite some empirical data from our ongoing research in the Philippines. The fourth section concludes the paper.

II. Propositions of the Perfectly Contestable Market (PCM) Theory [3]

A contestable market framework generalizes a perfectly competitive market, accommodates monopolistic and oligopolistic competition under specific conditions, and ensures a welfare optimal equilibrium under a sustainable market configuration. A perfectly contestable market in a static setting can be defined as one in which entry and exit have no barriers and are costless, and in which firms and the industry may or may not be characterized by economies of scale or scope (Baumol, Panzar and Willig). Production certainty, instantaneous adjustments and perfect information are assumed. Since the available production technologies and market demands are assumed to be constant, potential entrants are unimpeded by the prospects of post-entry price responses by incumbents but are impeded when existing market prices allow no profitable entry. The incumbents set product prices at the minimum of average costs of production, and multiproduct incumbent firms avoid cross subsidization to deter profitable entry by potential entrants. Therefore, since there is frictionless entry or exit, either the absence of sunk costs or the prevention of post-entry responses by incumbents are sufficient for markets to be contestable.

Appelbaum and Lim relaxed the costless and hit-and-run assumptions of the PCM thesis of Baumol, Panzar and Willig. They showed that in a market characterized by

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[3] The key propositions of the PCM thesis are summarized here. For a fuller discussion, the reader may refer to a survey article on the theory of contestable markets by Spence.

uncertainty and efficient ex-ante production and adjustment costs, the existence of the threat of potential entry would induce incumbents to increase their irreversible precommitments and hence affect the probability of entry. Regardless of uncertainty, however, they showed that the existence of the threat of entry by potential entrants controls the incumbents' strategy. However, Schwartz and Reynolds argued that in a dynamic setting characterized by the presence of entry and exit frictions and the absence of instantaneous adjustments, the incumbents are not disciplined by the *threat of potential entry but by the actual entry*, and hence markets become noncontestable.

It can be seen that as a framework for analyzing industry structure, contestability theory focusses on variables that affect ease of entry and exit. Applied to informal credit markets, this approach shifts attention away from the conventional indicators of market power (e.g. lender concentration ratios) towards the nature of entry and exit barriers in rural financial markets. In the next section, we apply these PCM propositions to our survey of informal credit markets in the Philippines.

III. Contestability Theory and Some Features of Rural Informal Finance

The data used for this paper are drawn from an intensive credit market survey conducted in 1987-89 in six rice growing villages in the province of Nueva Ecija, Philippines. A total of 218 farm households and 80 landless households were randomly selected for the study [4]. A profile of the sample households and their informal credit market transactions

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[4] The focus of the survey was on the credit market transactions of the rural agricultural households. The survey did not collect detailed information on the operation of the informal lender households.

is presented in Tables 1 and 2. The research reveals that informal credit contracts are typified by a wide variety of credit contracts and the heterogeneity of lenders and borrowers [5]. The informal lenders include landlords, farmers, traders, professional moneylenders, input dealers, millers, and retail storeowners. The high proportion of interlinked credit contracts, especially with farmer and trader lenders, indicates that the majority of lenders lend to borrowers with whom they already have existing economic dealings in related product or factor markets. These interlinked contracts can be treated as multiproduct transactions characterized by scale and scope economies as well as shared inputs in terms of information about the market participants. Furthermore, some degree of specialization by lenders towards specific classes of borrowers is observed, in which the lenders' principal economic activity determines their potential borrower clientele. For instance, the majority of trader lenders in the sample specialized in lending to farmers whose marketable surplus would expand the traders' market share, while farmer lenders, whose objective is to elicit optimal effort by their laborers, specialized in lending to landless workers.

These empirical observations necessarily qualify the view that rural informal credit markets are contestable. While the PCM thesis is not explicit about the nature of the products being traded, the assumption of constant technology and product demand faced by both incumbents and potential entrants implies product homogeneity. The non-homogenous nature of credit distinguishes it from the exchange of other commodities in which the identity of the transactors does matter. The uncertainty present in any credit transaction

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[5] A detailed description of the credit markets in four of the sample villages is found in Esguerra and Meyer. Empirical evidence reported by Floro and Geron support these observations.

leads lenders to include various explicit and implicit provisions in credit contracts as a way to reduce risk. The lenders also vary contract terms and conditions depending upon their assessment of an individual borrowers' risk characteristics. Applying the PCM argument to the informal credit market *as a whole* becomes problematic when credit contracts are highly differentiated and the market is segmented among lenders and borrowers.

The presence of several lenders does not guarantee competition. Consider a trader lender who provides loans at ten percent monthly interest payable upon harvest with the requirement that the borrower sell his harvest to the lender. Suppose this lender operates as a monopolist in the village. By contestability, he cannot charge higher than the competitive interest rate, otherwise new lenders will enter the market. But for a potential entrant to constrain the incumbent monopolist to the competitive interest rate, he must be able to enter the market and provide exactly the same type of service. In addition, the entrant must possess information about the creditworthiness of the monopolist's borrowers. Any potential entrant cannot be an effective threat to an incumbent if he does not have the same means to screen the incumbent's borrowers. For instance, a farmer-lender who charges a lower explicit interest rate and requires the borrower to work for him for a daily wage during seasons of peak labor demand may not affect the trader-monopolist's behavior. If the interlinking of credit contracts with transactions in other markets is considered as a risk reducing mechanism, then differences in the "ability" to engage in a particular type of interlinkage which depends upon a lender's other economic activities may be interpreted as differences in "financial technology". Moreover, if two borrowers perceive two contracts as

being distinct in the service each provides, then the lender offering the lower-explicit interest contract may not be able to attract another lender's borrowers.

It is more appropriate to consider contestability of a market served by a specific type of lender (e.g. farmer, trader, professional moneylender). Since there are no legal restrictions on lender entry and exit, there is usually more than one lender per lender type operating in each of our study villages. But there does not appear to be an inverse relation between average seasonal interest rates and number of lenders in a village as reported in Tables 1 and 2 [6]. This suggests a need to further disaggregate the loan observations by purpose of the loan and by historical relations between the participants. It also implies that an informal lender offers differentiated loan contracts based on the personal and material attributes of borrowers.

Even if the presence in a village of several lenders of the same type is considered as a measure of competition, the contestability of the informal credit markets is still unclear. The presence of multiple lenders only indicates that entry occurred at some time in the past, presumably in response to profitable opportunities. The low explicit interest rate per season observed among the informal lenders during the study period, compared to 60-100 percent seasonal explicit interest rates reported in the region in the 1960s, provides suggestive evidence that interest rates fell with the entry of more lenders over time (Tables 1 and 2). However, this evidence does not say anything about the initial lenders' pricing or interest rate setting behavior prior to entry, i.e. whether the threat of entry rather than entry itself

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[6] A season is comprised of five to six months. The majority of the loans are contracted for one season.

caused rates to fall. PCM theory argues that *potential, not actual*, entry is the disciplining influence on incumbents' prices.

There may exist cases where the threat of entry does not affect pricing decisions. Schwartz shows that an incumbent monopolist may actually set the entry-deterring price at the monopoly price level regardless of the ease of exit. This is possible if the monopolist can change his price rapidly in response to entry [7]. Alternatively, an incumbent monopolist may choose to set his price at the monopoly level and accept entry, taking advantage of extra profits he may earn during an entry lag instead of choosing the entry-deterring competitive price. The longer the entry lag, the more profitable is this strategy.

The second alternative seems more likely to occur in informal credit markets where entry, though not necessarily infeasible, may be difficult because of risk and asymmetric information. Furthermore, as Hayami pointed out, the importance of social relations defined by kinship, patronage and reciprocity as a facilitator of economic exchanges in agrarian settings - where markets are either missing or incomplete - may partially deter entry. Under these circumstances a market entrant will find that "investment" in village social relations is a crucial input to his lending and related activities. This is a *specific* type of investment intended to gather borrower information as well as establish the entrant's reputation in a particular market. As such the *reputation* of the entrant is a type of irreversible *sunk cost*. As long as village social relations are acknowledged to be crucial by informal

[7] The entrant's profit opportunity shrinks to zero as the incumbent's response time approaches zero. At the limit no entry occurs.

credit market participants, incumbents may simply take advantage of an entry lag while potential entrants build their capability to compete.

IV. Conclusion

This paper has focussed on the question of contestability as applied to rural informal credit markets. It has been argued that the contestable market propositions are empirically difficult to support using data from standard credit surveys of rural households. The assumption that underlie the contestability thesis - perfect information, constant financial technology and instantaneous adjustments in a static setting - are not easily met in practice, much less so in data sets drawn from segmented informal credit markets offering differentiated credit contracts. The presence of many heterogenous informal lenders is not necessarily evidence of competition. Even if the data are correctly interpreted as such, we cannot deduce contestability. Therefore, we agree with the theory's critics that contestability is empirically difficult to prove.

Proving that informal credit markets are contestable is, however, not necessary in order to argue against government regulation of informal financial markets. The analysis of the contestability of rural informal credit markets requires the development of more robust methodological techniques, more detailed intensive surveys to unravel the complexities of informal credit contracts, followed by broader based surveys to quantitatively test the nature of the relations. However, the cost of mounting an intensive data collection effort to find support for the contestability thesis is not justified by the gain in being able to point out the inability of regulating informal finance.

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Table 1. Profile of Credit Market Transactions in the Sample Farm Operator Households

Item	Villages					
	V1	V2	V3	V4	V5	V6
No. of households	28	31	8	24	80	47
No. of Borrower HH	26	30	8	18	77	41
Total no. of loan contracts	123	131	29	48	291	98
No. of Informal loan contracts	115	117	29	45	287	91
No. of Individual Lenders						
Farmers	11	19	2	4	42	21
Traders	5	9	1	5	10	11
Moneylenders	1	1	1	2	7	10
Other informal [a]	8	10	4	2	6	5
No. of Contracts (Percent interlinked contracts to total in parentheses)						
Farmers	33 (0)	34 (0)	5 (0)	12 (0)	110 (72)	27 (37)
Traders	32 (50)	67 (76)	1 (0)	12 (17)	131 (91)	26 (79)
Moneylenders	27 (52)	2 (0)	8 (100)	11 (0)	19 (63)	18 (61)
Other informal	23 (17)	14 (14)	15 (33)	10 (0)	27 (26)	20 (16)
Interest rate per season (standard deviation in parentheses) [b]						
Farmers	29.6 (14.9)	31.2 (14.2)	19.7 (11.6)	36.6 (28.1)	28.7 (11.9)	32.7 (17.7)
Traders	26.0 (6.8)	28.7 (4.9)	40.0 (-)	54.3 (38.1)	24.1 (5.9)	45.6 (27.6)
Moneylenders	24.7 (46.5)	30.0 (-)	25.2 (17.4)	40.4 (10.6)	24.5 (7.7)	30.1 (6.5)
Other informal	27.6 (21.3)	11.9 (56.1)	30.0 (9.3)	48.5 (48.5)	31.1 (9.8)	27.1 (14.1)

a Other informal lenders include retail store owners, input dealers, landlords, and rice millers.
b Excludes zero interest rate loans.

Table 2. Profile of Credit Market Transactions in the Sample Landless Households

Item	Villages					
	V1	V2	V3	V4	V5	V6
No. of households	22	20	5	4	17	12
No. of Borrower HH	20	17	4	0	9	2
Total no. of loan contracts	55	64	14	0	51	5
No. of Informal loan contracts	54	64	14	0	51	5
No. of Individual Lenders						
Farmers	9	7	4	0	11	2
Traders	0	6	1	0	6	0
Moneylenders	1	1	1	0	2	0
Other informal [a]	3	7	0	0	6	2
No. of Contracts (Percent interlinked contracts to total in parentheses)						
Farmers	41 (54)	21 (67)	10 (80)	0 (-)	17 (71)	3 (67)
Traders	0 (-)	32 (88)	2 (100)	0 (-)	10 (90)	0 (-)
Moneylenders	4 (0)	2 (0)	2 (100)	0 (-)	3 (34)	0 (-)
Other informal	5 (0)	9 (56)	0 (-)	0 (-)	21 (67)	2 (50)
Interest rate per season (standard deviation in parentheses) [b]						
Farmers	28.6 (25.5)	26.4 (1.2)	13.9 (24.9)	0 (-)	24.9 (8.8)	7.7 (12.7)
Traders	0 (-)	20.7 (4.0)	30.0 (0)	0 (-)	25.4 (7.1)	0 (-)
Moneylenders	51.2 (25.3)	30.0 (0)	15.0 (0)	0 (-)	33.3 (5.8)	0 (-)
Other informal	40.0 (14.1)	45.8 (14.0)	0 (-)	0 (-)	29.7 (8.2)	2.1 (1.1)

a Other informal lenders include retail store owners, input dealers, landlords, and rice millers.
b Excludes zero interest rate loans.